Overcoming catgut difficulties

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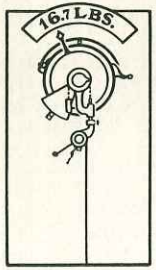


Fig. I

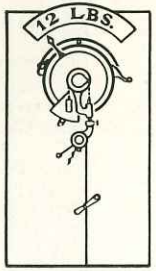


Fig. II

Scanlan catgut sutures are repeatedly tested on the Scott dynamometer. Fig. I shows straight pull test on Scanlan plain two. Fig. II shows knot test on Scanlan chromic two.

Handling Catgut in the Operating Room

Modern science has gone a long way in conquering the natural vagaries of raw catgut. Tensile strength, flexibility, size and general physical characteristics are automatically charted by precision machines in the well equipped factory. Laboratory tests indicate powers of absorption, sterility, neutrality, and general physiological properties. To secure best results from the finished product, however, a definite technic of handling in the operating room must be prescribed and enforced.

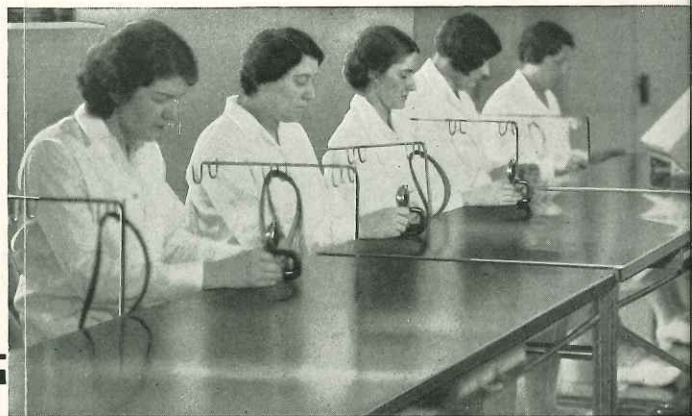
Catgut is either of the boilable or non-boilable type. *Non-boilable* catgut is stored in a tubing fluid that contains moisture and makes the suture exceedingly flexible and ready for immediate use without any softening treatment whatever. The moisture content, however, positively precludes the heating of the tubes for purposes of sterilizing the tube exteriors. Non-boilable suture tubes may be sterilized only by immersion in a cold germicidal solution. Any of the following solutions may be used for this purpose.

No. 1. Mercuric chloride ($HgCL_2$) 1:1000 in 50%-70% alcohol.

No. 2. Potassium mercuric iodide (K_2HgI_4). To each 1000 cc 50%-70% alcohol, add .577 gr. HgI_2 mercuric iodide and .577 gr. KI potassium iodide, which will give approximately 20% excess of potassium iodide.

No. 3. Harrington's Solution. Mercuric chloride $HgCL_2$ 1.5 gr., hydrochloric acid 100 cc, glycerine 100 cc, alcohol (C_2H_5OH) 95% 1200 cc, water distilled 2000 cc.

Scanlan sutures are accurately sized with the aid of sensitive dial gauges.



SCANLAN LABORATORIES, INC. SURGICAL SUTURES MADISON, WIS., U.S.A.

Common Causes of Catgut Breakage

and how to guard against them

When *non-boilable* catgut is used and frequent breakage occurs, the cause may be traced to one or more of the following conditions:

1 *The tubes of catgut may have been boiled or autoclaved to sterilize the tube exteriors, instead of being cold-sterilized.*

Non-boilable catgut is sealed in an alcohol solution and the application of heat in this manner will soften the collagen of the catgut and destroy its tensile strength. Non-boilable catgut tube exteriors may be *cold-sterilized only.*

2 *The catgut strand may have been soaked or moistened when removed from the tube.*

Non-boilable sutures are stored in a tubing fluid which supplies the strand with sufficient moisture to render it very flexible and pleasant to use just as it comes from the tube. Do not moisten the strand. This treatment is likely to injure the tensile strength.

3 *The strand may have been removed from the tube and left exposed to the drying effect of the atmosphere long before the surgeon was ready for it. It then required moistening and it may have been subjected to prolonged soaking with consequent destruction of the tensile strength.*

Non-boilable catgut should never be prepared far in advance of the operation. The best results are secured when the strand is served directly from the tube. When necessary to prepare the sutures beforehand, place between the folds of a sterile towel that has been wrung out in a 95% solution of alcohol to which has been added a 1:1000 concentration of potassium mercuric iodide.

4 *The tube may have been improperly broken and the strand injured in removing.*

In breaking the tube, the strand should be shaken to the bottom of the tube well away from the break mark of the tube and carefully withdrawn without coming in contact with the broken edges of the tube.

5 *The nurse, in testing the strand for tensile strength, may have jerked it rather violently, thereby seriously weakening the strand before the surgeon had a chance to use it.*

The strand should be stretched out to full length, upon removal from the tube, using only a firm, even pull consistent with the size and type of the suture.

6 *Too small a size may have been used for the purpose intended, or too much expected of a small size.*

The surgeon and nurse should consider the strength of the suture in relation to its diameter. If the suture is true-gauged, it will not be oversize and its tensile strength must be calculated in accordance with its stated size. It must also be remembered that chromic catgut tests some 25% stronger than plain catgut.

7 *The surgeon may tie the knot at a remote distance, sawing down on the loop in a way that frays and weakens the strand.*

Tying close to the wound and avoiding friction on the strand greatly conserves the tensile strength of the suture and avoids the danger and annoyance of breakage at the knot.

SCANLAN LABORATORIES, INC.

MADISON, WISCONSIN

SCANLAN SUTURES

Scanlan sutures *(non-boilable)* are intended for use direct from the sterile tube. They have been high heat sterilized at 320° F. for an hour and bacteriologically checked by the Meleney-Chatfield sterility tests.

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Types and Sizes

	Per doz. postpaid
No. 100—Plain Catgut	
Sizes 0000, 000, 00, 0, 1, 2, 3, 4	$3.00
No. 210—10-Day Chromic Catgut	
Sizes 0000, 000, 00, 0, 1, 2,	3.00
No. 220—20-Day Chromic Catgut	
Sizes 0000, 000, 00, 0, 1, 2, 3, 4	3.00
No. 240—40-Day Chromic Catgut	
Sizes 000, 00, 0, 1, 2, 3, 4	3.00
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(20-day chromic 00, 0, 1)	
No. 320—with single straight needle	3.00
No. 350—with double straight needle	3.60
No. 360—with ⅜ full curved needle	3.60
No. 375—with ½ full curved needle	3.60
Short Sutures *(20", sizes 00, 0, 1, 2)*	
No. 400, plain	1.50
No. 420, 20-day chromic	1.50
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(40-day chromic, 28", size 3)	
No. 440, with full curved needle	3.60
Circumcision Sutures	
(plain 28", sizes 000 and 00)	
No. 500, with small full curved needle	3.00
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No. 520, 20-day chromic, with ½ curved needle	2.40
No. 511, plain 0, 1, with ⅜ full curved circle needle	2.40
No. 521, 20-day 0, 1, with ⅜ full curved circle needle	2.40

Quantity discounts apply on above prices.

Complete price list of our entire line of absorbable and non-absorbable suture materials will be furnished upon request.

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